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ABSTRACT

The annual report of the Institute for Communication Research at Stanford University describes current projects on health communication, international communication, communication research in education and in media. An extensive report is given on a long-term series of studies on the most effective ways of preventing heart disease in the United States and on Institute projects in El Salvador, Guatemala, the Ivory Coast, and Iran. The report lists the current publications of Institute personnel. Brief sketches of the research in progress by student members of the Institute are also given. (Author/HB)

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ANNUAL REPORT

1974–75

1 October 1975

INSTITUTE FOR COMMUNICATION RESEARCH

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ANNUAL REPORT

1974-75

1 October 1975

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Introduction

Operating as the interdisciplinary research division and Ph.D. training arm of the Department of Communication at Stanford University, the Institute for Communication Research has undertaken projects on international communication, on communication and health, on new information technology, and on developmental communication and attitude change. It is responsible for the research training and experience of advanced students in Communication.

Previous annual reports of the Institute have described a wide range of research activities, among them being an evaluation of the effects of educational television in El Salvador, an investigation of the potential of satellites for education and development plans, and how information needs of people can be provided throughout their lifetimes. Work has been carried out on communicating science information to lay audiences, studying the effect of television violence on children, discovering effective ways to help people live healthier lives, developing a new program in information science, and developing an on-line information retrieval system (SPIRES), which is presently being utilized throughout the University. The results of these research activities are published in a variety of forms, by private and university presses, in journals, and in monographs by the Institute or other agencies. Each of the annual reports have listed the current publications of their participants.

This year, an extensive report on a long-term series of studies on the most effective ways of preventing heart disease in the United States is presented. On-going research in international communication, use of communication satellites in Iran and Alaska, and the status of educational research and development in the United States, are some of the other topics discussed. Brief sketches of the research in progress by student members of the Institute are also given.

The Institute for Communication Research is directed by Professor Nathan Maccoby. Inquiries regarding the current research of the Institute should be directed to the individual investigators responsible, in care of the Institute. All inquiries concerning instructional programs offered in Communication, both undergraduate and graduate, should be directed to the Department of Communication, Stanford University.

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PART I

RESEARCH IN PROGRESS

COMMUNICATION STUDIES IN DISEASE PREVENTION

Heart Disease Prevention Program

Under the sponsorship of the National Heart and Lung Institute, a Specialized Center for Research on Arteriosclerosis (SCOR) has been established as an interdisciplinary research program in heart disease prevention. The director of the project is Professor John W. Farquhar, M.D., of the Department of Medicine. Nathan Maccoby is assistant co-director for the behavioral and communication components of the study, along with Henry Breitrose. Developments since the last Institute report are given below.

A major component of the Stanford Heart Disease Prevention Program (SHDPP) is the Three-Community Study.* Three towns with populations between 12,000 and 15,000 have been the subject of a field study designed to test the effectiveness of a multi-media campaign (Gilroy, California) with one supplemented by intensive interpersonal instruction (Watsonville, California) as compared with a central control community (Tracy, California) in reducing risk of heart disease. Random samples of approximately 500 persons between the ages of 35-59 in each were interviewed and medically examined before the program began and at the end of each year. These have been re-interviewed and examined. In addition, independent samples not previously tested were also studied in order to rule out sensitization effects and for other statistical reasons.

*Maccoby, Nathan and Farquhar, John W. "Communication for Health: Unselling Heart Disease". In Journal of Communication, 25:3, Summer 1975, pp. 114-126.

During the past year, measures were taken after the second year of treatment. The third and final year of communication inputs is almost completed as of this writing, after which a final set of measures will be taken.

1. A Description of the Intervention

The mass media intervention program is described below. The program was carried out in essentially similar fashion in both Watsonville and Gilroy. All subjects were assigned risk scores (using the Cornfield scale) based on medical examinations. An individual's score was based on his or her systolic blood pressure, weight, age, heredity, cholesterol level, and rate of smoking. The top 20% were randomly divided in half, and one such group was treated with intensive face-to-face instruction. These high-risk individuals received intensive instruction in groups of 15, or individually in their homes if they were unable to attend group meetings.

The behavior modification strategy developed for use in Watsonville was based on the theoretical work of Albert Bandura*, and its application to our program was pretested at the Varian Corporation by Meyer and Henderson** Bandura posits that behavior is learned by imitation of a model performing new acts and the selective reinforcement of such behavior. An essential aspect of this procedure is that the modeling and reinforcement be of highly specific acts. The ultimate objective is for these new behaviors to become self-reinforcing. Thus, a five-part pro-

*Bandura, A. Principles of Behavior Modification. New York: Holt, Rinehart and Winston 1969.
**Meyer, A. and Henderson, J. "Multiple Risk-factor Reduction in the Prevention of Cardiovascular Disease." Preventive Medicine, 3:3,1974

cess can be described: (a) analysis of existing relevant behavior and behavioral objectives, (b) modeling of new acts by instructor or model, (c) guided practice of new behavior by the learner, (d) reinforcement of the new behavior, and finally (e) maintenance of the new behavior without further instructor intervention.

Meyer, Nash and McAlister applied these principles very briefly as follows. In diet, guided practice of new behavior was achieved by each subject's planning and reporting on the food he or she ate on a weekly menu plan over a period of four weeks. Each person's progress was recorded in terms of weight loss and a progress report feedback system. Group progress was tracked by a point system on a large sheet.

Specific guidance took the form of joint simulated market shopping, menu planning, and food preparation. Meals typically consisted of attractive dishes like chicken scallopini, stuffed zucchini, stuffed fillet of sole, or arroz con pollo.

Reduction in the number of cigarettes an individual smoked was considered to depend on modification in two behavioral areas: behavior associated with smoking, such as buying, storing, lighting, holding, and extinguishing cigarettes; and responses to situations typically considered cues for smoking by most smokers, such as with coffee, after meals, waiting for a traffic signal to change, talking on the telephone, with a drink, at parties, or at meetings. For the heavy smoker, the list of such cues becomes very long indeed.

A method developed by Frederickson * was employed. For several days each smoker carried a data form with his or her cigarette pack and recorded the time, circumstance, and the importance to him or her of smoking that cigarette at that time on a scale of 1 to 5. Smokers were subsequently encouraged to avoid smoking, first in response to relatively weak cues and later in response to successively stronger ones.

Smokers were encouraged to substitute sugar-free lozenges, to walk, to breathe deeply, and to try other substitutes in the presence of cues for smoking. The instructor also suggested breaking up habitual patterns associated with smoking by doing such things as changing brands weekly or buying only one pack of cigarettes at a time.

Each smoker's progress was recorded via a progress feedback system. An important aspect in developing motivation and readiness to quit was a procedure in which each smoker "psyched" himself up. He started by considering whether he really wanted to quit, then decided when he would set the date to quit, then set the date, and finally announced it to fellow group members. Thus, when "quit day" arrived, he was ready.

Increase in exercise was attempted via the modification of an already existing routinized activity. New activity should be convenient to engage in, pleasurable, and compatible with an already exisiting pattern of behavior. A film and a physical activity specialist presented patterns of new or increased activity. Each subject then decided which activities he or she would emphasize and discussed which periods in his

*Frederickson, D.T. "How to Help Your Patient Stop Smoking." Diseases of the Chest 54; 1968, pp. 196-202.

or her daily schedule were appropriate for activity increase. Each person's progress was recorded through a progress report feedback system.

Reinforcement devices for various new behaviors of all three sorts - diet, smoking, and exercise - included instructor and spouse encouragement, group support, weekly weigh-ins, the progress report feedback system, and the anticipated gratification from doing well on the physical examinations to come. Maintenance of such changed behvior has been sought by gradually withdrawing these artificial reinforcements and discussing with subjects their interiorization of the new acts.

2. The Community Media Campaign: Janet Alexander, Director

Previous annual reports have outlined the various activities undertaken during the stages of planning, producing, distributing and evaluating the first two campaign years. During the third and final campaign-year, the intention was to continue the Watsonville and Gilroy media campaign at a maintenance level. This would be accomplished in part by recycling some of the previously produced materials and in part by producing new materials. Media events occurred on a random interval schedule from Christmas 1974 to September 1975.

The campaign continued to use a variety of media channels (television, radio, newspaper, direct mail) in Spanish and in English. Revisions and modifications in the content conveyed were made on the basis of the analysis of the data collected in prior years, and various informal "snoops" undertaken from time to time. These snoops involved a series of telephone and mail surveys, direct observations and evaluations of film previews. They provided feedback from the subjects to determine the usefulness of various materials relative to their purpose and an overall evaluation of the progress of the media campaign.

In December 1974, a song about heart health for the holiday season was released. It was sent to radio stations, in both Spanish and English, in the hope that they would find it appropriate to air through the New Year, both for its value as musical programming and for its public service value. The original composition was produced as a 45 rpm record during the second campaign year. We recycled it onto cassettes and re-released it.

Spanish radio events were numerous and varied. In March 1975, two Spanish-language radio stations played "Sabor y Salud" on a regularly-scheduled and well-promoted basis. Display ads also appeared in local newspapers throughout the broadcast period. "Sabor y Salud" was a series of 5-minute radio programs featuring our own Chef Romero and his heart-healthy food and recipes. Chef Romero, in a lively interchange with a narrator, would demonstrate how some traditional Mexican dishes could, with simple modifications, become more heart-healthy and still retain their taste appeal. The material for the series was originally developed in the second campaign year. "Sabor y Salud" was broadcast again in May 1975 on one station, while the other Spanish station re-broadcast a Spanish radio drama series from the first campaign year, "Sucesos de la Vida Real," 17 radio-novelas of 5 minutes in length.

Each "Sucesos" program was melodramatic with an identifiable musical theme, featuring 2 or sometimes 3 characters in a real life drama situation which would in some way be linked to heart disease. In this particular series, we introduced the concept that the individual <u>can</u> do something about heart disease; we defined terminology related to heart disease, i.e., triglycerides, cholesterol. We also described the coro-

nary risk factors and differentiated between those that modern science could do little about, such as heredity and sex, and those which most individuals could help control; for example, weight, diet, smoking. In addition, we presented the idea of multiple risk factor reduction as an efficient, practical way to help prevent heart disease.

Also, an analysis of the data from previous surveys indicated a need for more emphasis in some risk factor areas, and on particular informational points. A series of 20 Spanish radio announcements, "Sonidos", each one minute long, was produced and distributed on tape to six stations. Each centered around a specific bit of information or on a recommendation for behavior changes or alternative actions that seemed to require further emphasis.

Two other radio efforts in English were made. A set of 11 taped musical 60-second announcements, originally produced in the second year, were re-distributed to 14 radio stations reaching Watsonville and Gilroy (and not Tracy). Each of these spots emphasizes old and new risk factor messages based on analysis of effectiveness of earlier strategies and inclusion of new campaign messages.

The last radio event was part of a sub-campaign developed around exercise as a risk factor. "Activity Month" (May 1975) was a mix of several media events. Through the cooperation of the Swedish Consulates in San Francisco and New York, a radio series, "Stay in Shape the Swedish Way" and its accompanying free booklet was obtained. This program was given a regular broadcast schedule on two stations and was well promoted both on the radio and through ads in local newspapers.

A further part of "Activity Month" was the mailing of another booklet, "Health and Fitness," supplied without cost by the Swedish Consulate. It was mailed to all the study participants, doctors, dentists, hospitals and clinics in both towns. During the month, newspapers were supplied with a series of feature articles on the theme of "Why do Swedes Live Longer than People in (local town)?" Also, a copy of Dr. K. W. Gullers' book, "Fit for Fun" was distributed to doctors' office waiting rooms. Staff visited the recreation personnel in the towns and exchanged suggestions for the addition of the concept of cardiovascular health in the local program of events. One outcome was the inclusion of heart health promotion to interest citizens in using the new jogging trails.

Display ads were designed and placed in newspapers to draw attention to and build an audience for several media events on television and radio. Feature articles ("Activity Month") and news releases on study results provided occasional reminders of SHDPP presence within the communities. Also, a local labor union paper continued to publish the last of the Dr. Farquhar columns on heart health produced the previous year.

A new media campaign event was the production of an eight-page bilingual tabloid newspaper entitled "Your Heart Beat." Articles cover such topics as a plan to quit smoking, President Ford's diet, a self-scoring CHD risk test, and a tongue-in-cheek article by Jean Mayer giving advice on "How to Murder Your Husband." (A snoop indicated that the latter article was by far the most popular with tabloid readers.) About 20,000 copies were distributed to the newspaper-reading public in both towns by insertion in their Valentine's Day newspaper.

The radio series,"Sabor y Salud," was transformed into a series of newspaper columns, ostensibly written by "Chef Romero," and printed on a regular basis in El Sol from May through September. Each contained one recipe and made one major point about heart-healthy dietary modifications.

"The Heart Health Test" (HHT) was initially aired on KPIX-TV, San Francisco in August 1974. HHT is a one-hour videotaped television program. It is designed to teach the general public about the multiple causes of coronary heart disease and, through the device of a "Self-Scoring Risk Test", it provides viewers with a means to assess the degree of their own personal risk.

After the initial broadcast, a coincidental phone survey found that the program was very successful in holding its audience, informing them of the risk factors, and most importantly, actively involving them in making a personal assessment of the risks involved in their own living habits. Days later people could remember their "score".

Given the success of this program, it was thought to be a prime candidate for re-cycling in the third campaign year. A first re-run was scheduled in late April. (Incidentally, the cable service in Tracy (control community) had obligingly blacked out "The Heart Health Test" every time it had been broadcast). Extensive newspaper publicity was generated through press releases from SHDPP and KPIX-TV, by placing display ads in Watsonville and Gilroy newspapers, and by notices in TV Guide, the television supplements, and through promotional announcements broadcast by the TV station. Study participants were mailed a reminder notice of the

date and times with a scorecard for taking "The Heart Health Test."

A major innovation in SHDPP's concept of the role of television was the development of the "TV workshops", programs designed to provide in-depth training in heart-healthy practices. The impetus spring from an accumulation of evidence that people really did want to learn more about HOW to take care of their own health, in concrete specific ways, and that it "would be nice" if more of it could be on television.

The workshops were planned as a follow-up to the re-broadcast of the HHT. They were designed to be interesting, detailed skills-teaching lessons on the how-to's of risk reduction.

To date, four workshop programs have been produced:

"HOW TO STOP SMOKING" - a half-hour 16mm film designed to teach people how to quit smoking. The film pictures a smoking counselor working with a smoking group before and after quitting and gives a step-by-step plan for the audience to quit smoking.

We also produced a new series of three half-hour videotaped workshop programs on dietary modification, "COOKING FOR A HEALTHY HEART." These programs feature Anne Snyder, R.D., of the San Mateo Chapter of the American Heart Association. Mrs. Snyder stresses the essential principles of buying and cooking for heart health, and teaches viewers how to limit use of some foods, select more of others,and how to adapt their own recipes. The three segments are "Breakfast" (with guest star John Farquhar, M.D.), "Lunch, Snacks and Desserts" and "Dinner".

The four workshop programs were broadcast in a linked series following the HHT in late April and through May 1975, on KPIX-TV. Each pro-

gram contained a single announcement of the availability of a booklet of recipes from the programs that could be obtained by writing to SHDPP. Over 700 requests came in, many with interesting comments and suggestions about the series.

3. Preliminary Results of SHDPP

Because the study is still going on, final data showing the SHDPP's influence on the information, attitudes, and behavior of the residents of the three towns studied are not yet available. However, there are results which show that in terms of information, attitudes, and behavior, people in the two towns subjected to media programming and other forms of persuasion changed more than did the people of the control town. Furthermore, people in the high-risk groups who received intensive instruction changed more than people who were only exposed to general mass-media information. For example, substantial drops in egg consumption took place in the entire sample of all three communities, with significant gains for Watsonville of greater magnitude than for Gilroy. But Gilroy showed comparably more gain than did the control community of Tracy.

Figure 1 shows the change in number of cigarettes smoked by the total samples in each of the three towns between the start of the persuasion program and a survey conducted one year later. Again, the greatest change occurred in Watsonville, where intensive instruction was provided for high-risk groups. But change also took place in the town which received the "regular" media and literature treatment.

As Figures 2 and 3 indicate, some preliminary results also show changes in physiological measures among the high-risk individuals. Between late 1972, when the initial survey and physical examination were

TOTAL COMMUNITY SAMPLES

PERCENT CHANGE IN CIGARETTES SMOKED PER DAY (S2–S1)

Watsonville Compared to Gilroy and to Tracy

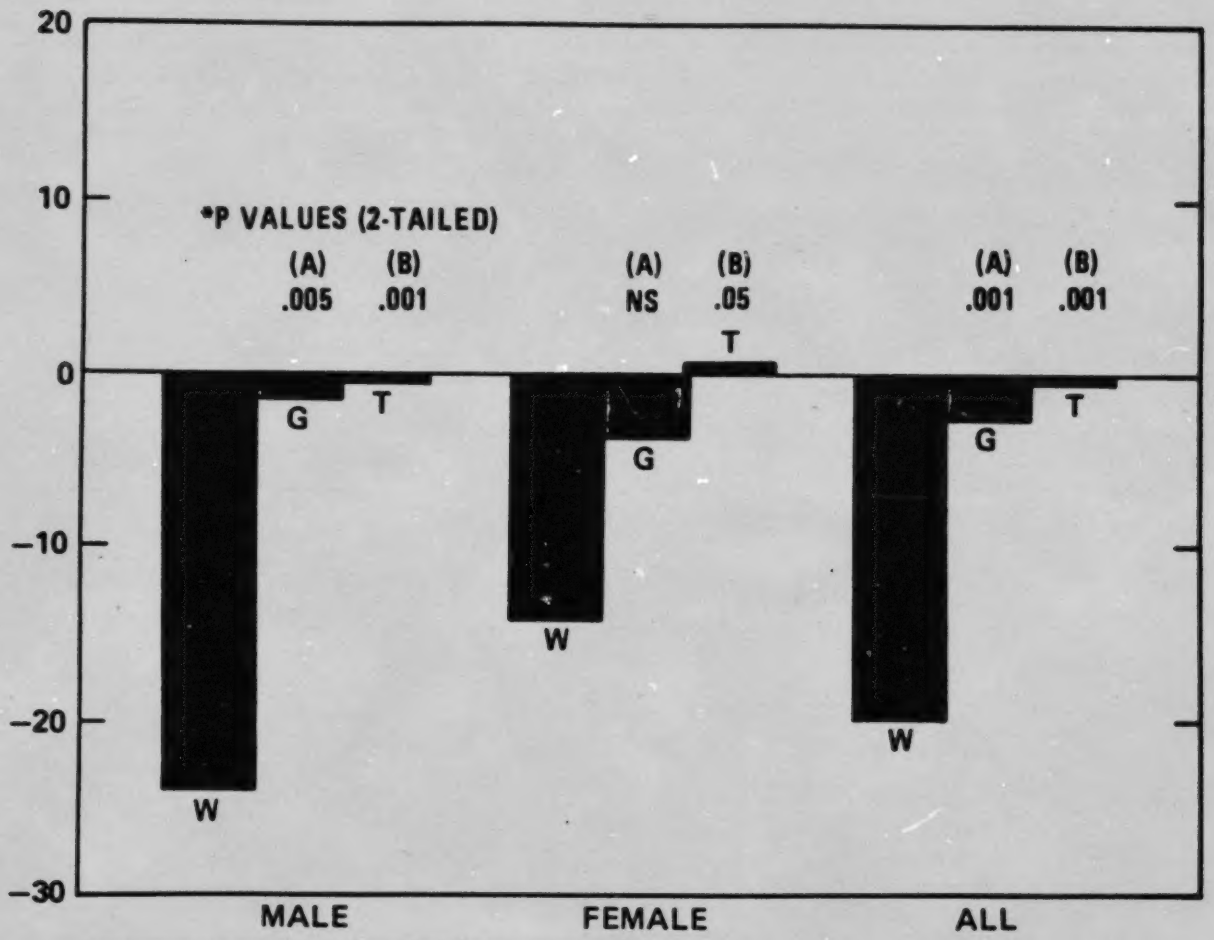
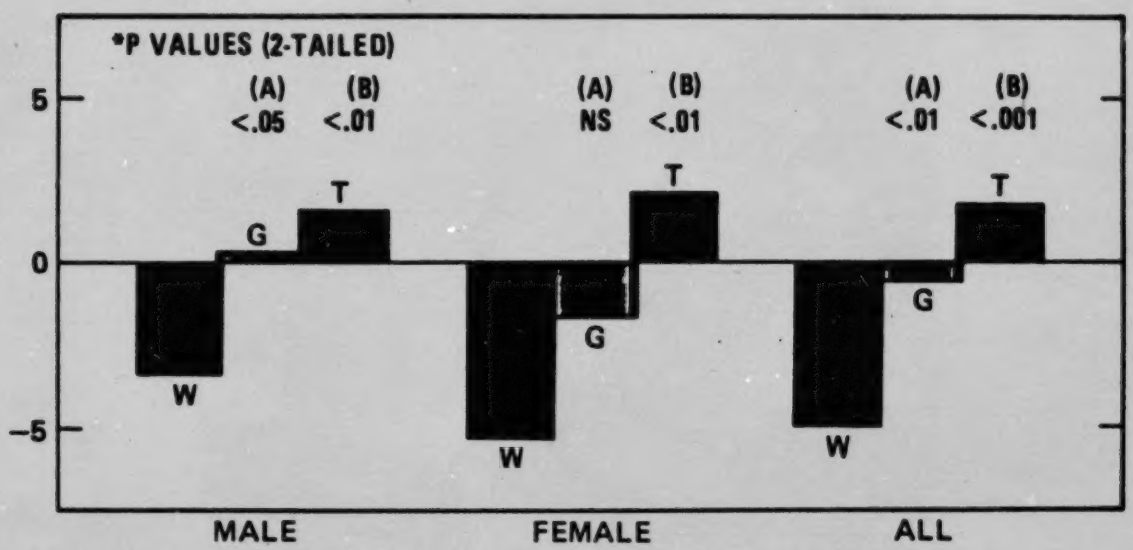


Figure 1: Percent change in cigarettes smoked per day among total community samples between Survey 1 (late 1972) and Survey 2 (late 1973).

HIGH RISK SUBSETS

PERCENT CHANGE IN CHOLESTEROL (S2–S1)

Watsonville Intensive Instruction Compared to Gilroy High Risk and to Tracy High Risk



*SIGNIFICANCE OF DIFFERENCE BETWEEN:

(A) WATSONVILLE INTENSIVE INSTRUCTION AND GILROY HIGH RISK, AND

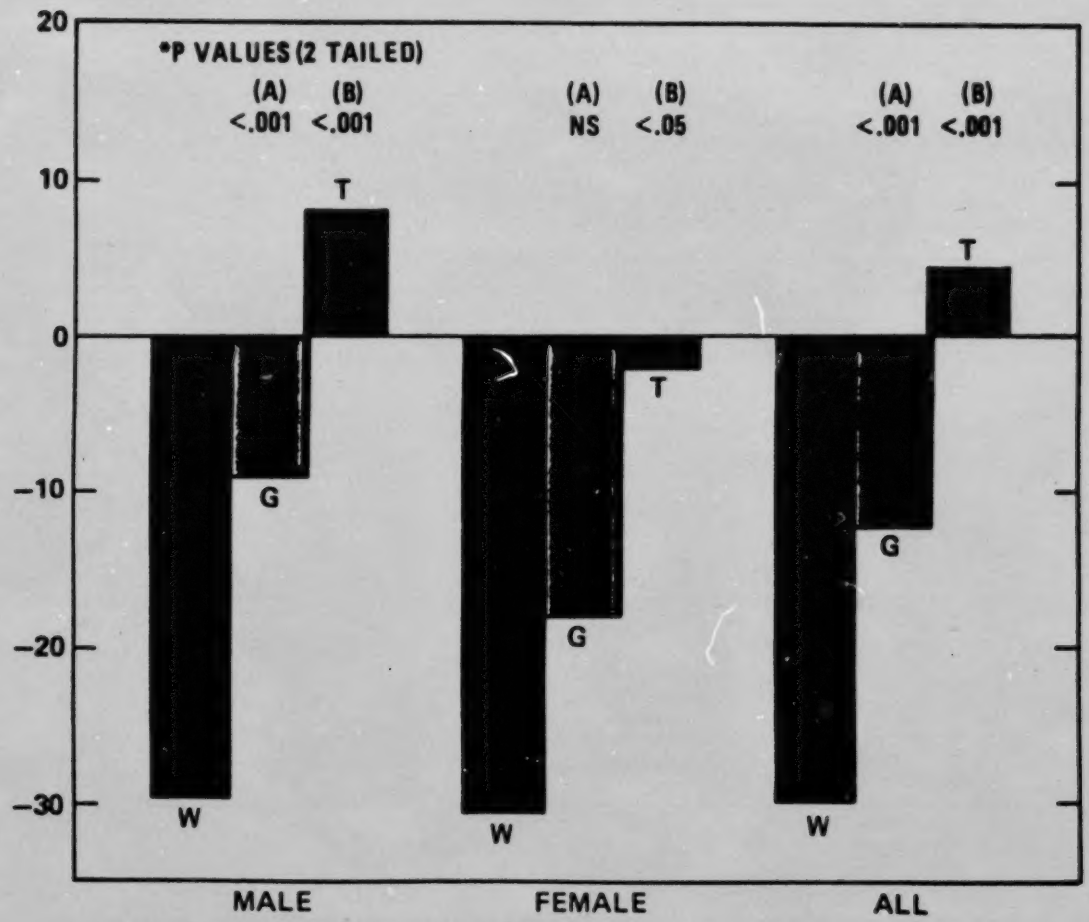
(B) WATSONVILLE INTENSIVE INSTRUCTION AND TRACY HIGH RISK

Figure 2: Percent change in cholestrol level among high-risk subjects between Survey 1 (late 1972) and Survey 2 (late 1973).

HIGH RISK SUBSETS

PERCENT CHANGE IN CORNFIELD RISK (S2–S1)

Watsonville Intensive Instruction Compared to
Gilroy High Risk and to Tracy High Risk



*SIGNIFICANCE OF DIFFERENCE BETWEEN:

(A) WATSONVILLE INTENSIVE INSTRUCTION AND GILROY HIGH RISK, AND

(B) WATSONVILLE INTENSIVE INSTRUCTION AND TRACY HIGH RISK

Figure 3: Percent change in Cornfield risk among high-risk subjects between Survey 1 (late 1972) and Survey 2 (late 1973).

conducted, and late 1973, when the second survey and examination were conducted, substantial improvements in cholesterol levels and in Cornfield risk were recorded for the high-risk subjects in Watsonville, who included the intensively treated groups. Subjects in Gilroy showed less improvement than those in Watsonville, but more than those in Tracy, the control town.

Almost all smokers already knew that smoking is risky. The SHDPP did succeed in making some gains in the number of people who know that smoking is a risk factor for heart disease as well as for lung cancer. But most smokers wanted to quit and most had tried to stop smoking and failed. In the case of smoking, it is clear that what is needed is to help people to learn the skill of not smoking. Exhortation to quit is scarcely the point.

Attitudes towards smoking were already largely in favor of the need for quitting before we began. Nevertheless, our entire Watsonville community sample showed some superiority to our control town - some 63 percent reporting that "quitting smoking helps you live longer" as compared with 55 percent. Gilroy was intermediate at 58 percent. The belief that smoking causes heart disease or strokes was also greatest for Watsonville after our campaign had been on than for either Gilroy or Tracy.

With respect to diet, we found that people's knowledge of which foods are high in saturated fats or in cholesterol was not always correct. For example, they rated pork as being relatively high in saturated fats. However, the changes in knowledge about the blood lipid triglycerides were huge.

In food, attitudes toward egg eating may be indicative. It was asked, "Generally, speaking, which of the following foods can be harmful to your heart?" At the beginning, as anticipated, all three total

community samples were similar. However, the differences from Survey 1 to Survey 2 varied dramatically. In Watsonville the percentage saying that eating eggs can be harmful jumped from 64.6 percent to 86.3 percent; in Gilroy from 67.2 to 77.4 percent; while in Tracy, the control community, the initial level was 75.6 percent and still 75.6 percent in Survey 2. By the end of the second year, Watsonville held up to 92 percent and Gilroy to 84.4 percent. Tracy went up also, but only to 77.3 percent.

In the need for physical activity, no important changes in attitudes towards the desirability of people engaging in exercise occurred.

Certainly there are some clear-cut changes in information about risk factors, attitudes towards the role of risk factors in heart disease and changes in behavior with respect to these risk factors. Most important, changes in the medical data also occurred and for the most part in the predicted directions. What is not known yet is the process through which these physiological changes took place.

The relationships among these kinds of variables are not yet clear. It is by no means evident as yet that the Cornfield risk reductions took place because of changes in information, attitudes, and behavior. SHDPP is in the process of analyzing these results further.

The changes that took place via intensive instruction are clearly more impressive than those that took palce via mass media alone. However, it is evident that mass media alone, when applied to the learning of appropriate skills, can also be effective. What we need to learn is how to apply maximally effective treatment. With the development and use for media material which appropriately emphasizes skills learning, it

should be possible to make considerably greater gains in risk-reducing behavior than we have thus far achieved.

The stability of risk-reducing behavior changes is another important concern; we are continuing to study our three communities to determine how durable the newly acquired habits are.

Our plans call not only for following these towns, but also for extending our investigation to new and somewhat larger communities. We are especially interested in working with local community organizations to see whether ways can be discovered of combining mass-media and live health education in a way that is feasible on a very wide scale. The role that communication researchers can play in such a program calls for a large integration in the application of previous theory and knowledge in this task, but it also provides a challenging laboratory for fundamental research in human communication. The potential gains in the saving of human lives should be challenge enough.

Participating in the behavioral changes component of the SHDPP are Dr. Anthony J. Meyer, Alfred McAlister, and Joyce D. Nash. Staff in the media component of the SHDPP are Janet Alexander, James Cusenza, Kent Gibson, Linda Craig Putnam and Roxanne Hoare. Production personnel include Sharon Gillette Espar, Nancy Singer, Prudence Martin, Patrick Crowley and Jonathan Else. Research personnel were Maryann Chamberlin, Jacques Delacroix, Georg Lindsey and Lee Anne Solis.

Increasing Physical Exercise through Behavioral Self-Control Techniques Plus Cognition Modification*

Following from her work with the diet and exercise component of the SHDPF, Joyce Nash, jointly with Professor Carl Thoreson of the School of Education and Fritz Bottjer, a doctoral candidate in Education, has recently conducted a study on how behavior modification can be applied to increasing physical exercise.

Two groups of subjects received a program of behavioral self-control techniques aimed at instituting and maintaining a regular exercise program of the subject's choice. One group received a set of additional techniques intended to modify cognitions as they pertain to exercise and as they pertain to the individual's self-image in regard to exercise. Based on the social psychological literature on attitude change, as well as on the literature of behavior modification, these techniques for cognition modification included,**1) elaboration of beliefs, based on McGuire's inoculation theory,**2) counterbelief arguing, based on the forced compliance paradigm,**3) self-verbalization therapy, based on the work of Meichenbaum and others, and**4) the use of imagery, specifically the revivification of positive images as incentives to initiate exercise.

*Nash, Joyce D., Bottjer, Fritz, and Thoresen, Carl E., Behavioral Self-Control Techniques Plus Cognition Modification for Increasing Physical Exercise. Unpublished manuscript, Stanford University, July 1975.

**1) McGuire, W. J. "Inducing resistance to persuasion, some contemporary approaches." In Berkowitz, L. (Ed.) Advances in Experimental Social Psychology. New York: Academic Press, 1964, pp. 191-229.

**2) Festinger, L. and Carlsmith, J.M. "Cognitive consequences of forced compliance." Journal of Abnormal Social Psychology, 58, 1959, pp.203-21

**3) Meichenbaum, D. and Cameron, E. "The clinical potential of modifying what clients say to themselves." In Mahoney, M.J. and Thoresen, C.E. Self-Control: Power to the Person. Monterey, Calif.: Book/Cole Publishing Co. 1974.

**4) Bandura, A. Principles of Behavior Modification. New York: Holt, Rinehart and Winston, 1969.

Results indicate that the techniques for cognition modification did indeed change beliefs for the extra-treatment group. A significant difference in information gain ($p<.10$) as well as significant changes in affective attitudes toward exercise were found. The link between cognition modification and overt performance of exercise, however, is less clear. Although the extra-treatment group did lower its after-exercise pulse rate 10.3 points compared to the control group, which lowered its after-exercise pulse rate 4.5 points while covering the same number of steps in a before/after step-test, these results must be viewed with caution because several subjects did not finish the after step-test.

Maintaining Nonsmoking Through the Revivification of Negative Imagery

The preliminary results of the SHDPP showed that those subjects who tried to quit smoking were unsuccessful in continuing not to smoke. It was suggested earlier that there is a definite need for acquiring the skills for maintaining nonsmoking.

Alfred McAlister * has recently reported on a preliminary experimental test using the rapid smoking technique** in establishing a maintenance pattern of nonsmoking. The rapid smoking procedure appears to have suppressed smoking by establising a visceral and gustatory aversion to tobacco smoke. Persons seeking to maintain nonsmoking can be taught to discriminate and revivify the visceral and gustatory images associated with this technique. The subjects, ten in all, were divided into

*McAlister, Alfred. Revivification of Negative Imagery as a Self-control Skill: Maintaining Nonsmoking. Unpublished report. Stanford Heart Disease Prevention Program, May 1975.

**Lichenstein, E. Harris, D., Birchler, G., Wahl, J. and Schmahl, D. "Comparison of rapid smoking, warm smoky air, and attention placebo in the modification of smoking behavior." Journal of Consulting and Clinical Psychology, 40:1, 92-98, 1973.

two equal groups: an experimental and a control group. There were seven women and three men; the mean age was 36, and the average number of cigarettes smoked per day was 30. The average years of habitual smoking history was 18.

In the experimental group subjects were trained to discriminate and revivify the imagery associated with rapid smoking simultaneously with viewing a video-tape of persons in respiratory distress, and were given guided practice in revivifying the negative visceral, gustatory and cognitive imagery in simulations of the circumstances that frequently elicit a return to smoking. The control group went through the same rapid smoking and videotape presentation, but was told that the effect of the procedure was "automatic." To control for the effects of practicing a specific coping strategy in difficult situations, the control group was taught to count backwards from thirty (distraction) in a guided practice paradigm identical to that used to train the experimental subjects in revivification skills. All subjects were taught simple relaxation skills, told that if it ever became impossible to avoid using tobacco they were to puff without inhaling on a cigar as a last resort, and instructed to avoid as much as a puff from a cigarette. The experimenter attempted to provide both groups with a maximum of enthusiasm, positive expectations and reinforcing feedback.

None of the experimental subjects reported any cigarette smoking after the final treatment session, but three of the control subjects admitted to at least some smoking ($p = .08$ by Fisher exact test). All five control subjects had resorted to cigars at one point or another or resumed smoking cigarettes, but only one of the experimental subjects reported any tobacco smoking at all ($p = .02$ by Fisher exact test).

The small number of subjects in each treatment condition and the fact that group treatment eliminates the independence of individual observations limits the strength of the inferences that can be drawn from this study. Before the efficacy of the revivification procedure can be conclusively demonstrated, these results must be replicated by different therapists in different subject populations. But if the implications of these data can be at least tentatively accepted, they may point the way toward other innovations in self-control training.

Reducing Serum Cholesterol as a Preventive Against Heart Attacks and Strokes

In addition to his involvement as assistant director in Heart Disease Prevention, Maccoby has acted as co-investigator with Drs. A. J. Stunkard and W. Stewart Agras of the Psychiatry and Behavioral Sciences Department on a related project, also supported by the National Heart and Lung Institute, in national lipid research.

These three form a subcommittee on recruitment and adherence with Dr. Steven Zifferblatt of the School of Medicine serving as chief of staff assisted by Jackie Dunbar of Education and Claire Wehrle. This subcommittee is participating in a national trial designed to test experimentally whether reducing serum cholesterol causes a reduction in heart attacks and strokes.

The trial is being conducted in twelve clinics across the United States and Canada. Male subjects who fit prescribed patterns of high cholesterol levels, but with normal triglycerides, have been successfully recruited. They have been randomized for treatment either with

cholorestyramine, a cholestrol reducing agent or a placebo. Biostatisticians estimate that it will have to be taken approximately seven years before enough cardiac events to occur to establish whether or not there is a reduction in heart attacks and strokes.

Cardiovascular Disease Prevention Training Program

Maccoby will be coordinating with Dr. Farquhar, the program director, on a recently funded three-year training program sponsored by the National Institutes of Health. Five post-doctoral traineeships are provided for a multi-disciplinary program for the prevention of cardiovascular disease. The traineeships will be split between M.D.'s and Ph.D.'s. The trainees will acquire direct personal experience in the field and laboratory programs of the SHDPP.

Maccoby's contribution in this multidisciplinary effort will be as co-coordinator with Dr. W. Stewart Agras, Professor of Psychiatry and Behavioral Sciences, for one of the three training tracks: Track II - Behavioral Science. (Track I concerns Biostatistics and Cardiovascular Epidemiology and Track III is on Nutrition.)

Trainees will receive training in behavioral science relevant to theory and research in communication, particularly as it relates to health maintaining behavior. Breitrose will also be assisting on this program.

HEALTH COMMUNICATIONS VIA SATELLITE IN ALASKA

From September 1974 to May 1975, the Alaskan Indian Health Service (IHS), a division of the U.S. Public Health Service (PHS), in cooperation with the Lister Hill National Center for Biomedical Communication in

Washington, D.C. sponsored an experiment using the ATS-6 (the Applied Technology Satellite launched by NASA in May 1974) to test the effectiveness of employing a full video channel (using ATS-1 for extra voice channels) for medical consultation and health care delivery between remote Alaskan village clinics and Alaskan hospitals. The IHS and Lister Hill earlier conducted a similar experiment using the ATS-1 (launched by NASA in 1966), which provided only voice capability. At their request Edwin Parker and his associates conducted an evaluation of the voice communications between village health aides and medical personnel at the Tanana Hospital*. The ATS-1 evaluation demonstrated dramatic increases in communication between health aides and physicians. Following that study, Parker and his research colleagues were selected by Lister Hill to examine the performance and effectiveness of the ATS-6 experiments.

The main purpose of the ATS-6 experiment was to explore whether nurses and health aides in villages such as Ft. Yukon (population 630) and Galena (population 425) could more effectively treat their patients when provided with support from physicians through the two-way video and voice capability of the satellite. The village clinics were linked with the PHS field unit hospital in Tanana, the Alaska Native Health Center in Fairbanks and the Alaska Native Medical Center in Anchorage. Through video transmissions on ATS-6 the physicians at Tanana could also obtain medical consultations with specialists at the Anchorage and Fairbanks centers.

*Kreimer, Osvaldo et al. Health Care and Satellite Radio Communication in Village Alaska: Final Report of the ATS-1 Biomedical Satellite Experiment Evaluation. Stanford, Calif.: Institute for Communication Research, June 1974.

The objectives of the evaluation study were:

1. to assess changes in the quality and quantity of health care at each location (i.e., Galena, Ft. Yukon and Tanana) during and after the experiment;
2. to determine whether and under what circumstances interactive video equipment can be operated by professionals and village paraprofessionals;
3. to monitor the reliability of the system and note the types and effects of malfunctions;
4. to monitor how the system is used, how much it is used, and to assess the opinions and attitudes of health care providers and patients involved.

Sources of data necessary for the evaluation are extensive and diverse. They include:

1. interviews with village residents, health care providers, and medical personnel before and after the experiment;
2. monitoring logs of the ATS-6;
3. supplemental logs of the ATS-1 voice-only satellite, which was used for the administrative and medical communication prior to and during ATS-6 transmission;
4. analysis of records from the Health Information System, a problem-oriented computerized health information retrieval system used by IHS.

Presently all of this data is being analyzed in preparation for the final report due for publication in December 1975. The report will assess the acceptance of the ATS-6 and its relationship to other health care priorities. A series of considerations for further experimentation and future system planning is also to be included.

Professor William Fowkes of the Departments of Medicine, Family, and Community Medicine, and Preventive Medicine is co-principal investigator. Other members of the research team cooperating with Professor Parker on the evaluation are Dr. carolyn Brown in Anchorage; Dr. Heather Hudson, Dennis Foote, Jinnet Fowles of the Institute, and Al Hillel, a Stanford medical student.

HEALTH COMMUNICATIONS FOR CANCER CONTROL

Matilda Butler-Paisley completed the National Cancer Institute project on public communication programs for cancer control. The project included two phases. In Phase I, a large number of public education programs for cancer control in both the United States and England was surveyed. In Phase II, 15 out of 100 programs were chosen for site visits, three in England and 12 in the United States. Sponsors included the American Cancer Society, the National Clearinghouse on Smoking and Health, the National Cancer Institute, Children's Television Workshop, the Regional Medical Program, G. D. Seale and Company, Fox Chase Center for Cancer and Medical Sciences, Health Insurance Plan of Greater New York, Manchester Regional Committee on Cancer (England), Women's National Cancer Control Campaign (England), and Cancer Information Association (England). Each of the programs

had achieved some success in reaching the public and had unique features that others might want to incorporate in the planning of future programs.

The final report, entitled "Public Communication Programs for Cancer Control", includes case studies of the 15 programs and synopses of 26 additional ones as well as chapters on the history of cancer public communication, social science principles of potential value in public communication programs, and potential of communication technology and "social communication engineering" for cancer control. The staff for the project included Alice Ahlgren, Sheridan Crawford, Simon Klevansky, Colin Mick, William Paisley-Butler, Suzanne Pingree, and Violet M. Lofgren.

Medical Literature Search

Colin Mick and Tim Haight completed their review of the literature on the information needs and uses of health professionals for the National Library of Medicine. This study was a continuation of research on information-related behavior in medicine that Mick, Butler-Paisley, and Paisley-Butler have been conducting for the past several years.

The final report included an annotated bibliography of more than 200 studies. This bibliography was generated from a SPIRES file that Mick and Haight defined and used for the project. The file allows the user to select various characteristics of the literature such as audience (e.g., physicians), medium, (e.g., television), and type of article (e.g., use study) and to use Boolean logic to select the combinations of characteristics desired (e.g., studies of physicians' use of television).

In addition to the articles entered into the file and collected in the bibliography, another 500 were acquired, and 1200 relevant citations were located. Funding is being sought to continue and expand the file.

COMMUNICATION AND DEVELOPMENT

Research, training and networking activities are continuing under the Agency for International Development (AID) five-year (1973-1978) institutional grant to the Institute. By strengthening the 'institutional capability' the goals of the grant are to contribute to the solutions of development problems through better use of human and mediated communication.

A faculty consisting mainly of Emile McAnany, John Mayo, and Robert Hornik, supported by others in the Department and directed by Lyle Nelson has been carrying out the program.

Via this grant, the Institute has also established and strengthened a new Ph.D. subspeciality in Communications Media and Social Change and a special MA program in the same general area, primarily for graduate students from Asia, Africa, and Latin America. The research program in developing countries has been gradually expanded and strengthened.

As of September 1975 Everett M. Rogers, formerly Professor of Journalism and Population Planning at the University of Michigan, joined the faculty as Professor of Communication and becomes the director of the AID grant. His research interests encompass extensive work on diffusion studies -- particularly on how new ideas and new practices have been adopted within a social system, on communication and social change within rural societies, on the effects of communication in family planning projects and on communications within organizations. Significant among his numerous publications and research reports are Diffusion of Innovations

(Free Press, 1962), Communication of Innovations: A Cross-Cultural Approach (with F. Floyd Shoemaker, Free Press, 1971), Social Change in Rural Societies (with Rabel J. Burdge, Appleton-Century-Crofts, 1972), and Communication Strategies for Family Planning (Free Press, 1973). Among his professional affiliations, Rogers is a member of the Population Task Force of the U.S. National Commission for UNESCO, chairman of the Advisory Council of the International Program for Population Analysis of the Smithsonian Institution, a member of the Social Science Panel of the Division for Research of the International Planned Parenthood Federation in London and a Fellow of the American Sociological Association. In winter quarter of 1976 Rogers will be teaching Communication 190: The Diffusion of Innovations.

El Salvador: Its Use of Instructional Television

The principal involvement of the international group over the last several years has been in the educational television experiment in El Salvador. That project has been the subject of many Institute reports noted in previous annual reports, some of which have also been published in Spanish. In this past year, Mayo, Hornik, and McAnany completed a book on the El Salvador project, Educational Reform with Television: The El Salvador Experience, which will be published by Stanford University Press in 1976. This is a detailed report of the planning, development, operation, results, and problems of a unique experiment in instructional television. All three authors served as field directors for the project.

Mayo, Hornik and McAnany, together with another former field director of the El Salvador project, Henry Ingle of the Academy for Educational

Development, Washington, D.C., contributed an article to the Revista del Centro de Estudios Educativos (no.1, 1975). It was entitled "Aspiraciones Academicas y Profesionales de los Estudiantes del Tercer Ciclo en El Salvador," and reflects one aspect of the Salvadorean research.

Guatemala: Research in Nonformal Education for Rural Populations

New research opportunities made possible by the AID grant are now being conducted in nonformal education for rural populations and for adults in Guatemala. Often these two groups are bypassed by the formal education system.

The Guatemala project is being conducted in association with the Social Sector Planning Office of the National Planning Commission of Guatemala. It is an effort to create a coordinating mechanism among government agencies working in nonformal education to promote a rural nonformal education pilot project in the Guatemalan highlands over the next three years. The project will involve the use of local monitors, the coordination of locally based government service personnel (in education, community development, agriculture and health) and the use of local radio stations. The Institute's participation is in two stages: a year of planning research and, upon implementation of the project, two years of evaluation of its impact. McAnany, Mayo, Hornik, Jerry O'Sullivan and Noreene Janus were in Guatemala for the first stages of the project.

Ivory Coast: Instructional Television

During the past four years, McAnany has been a member of a UNESCO advisory committee for the Ivory Coast instructional television project.

During this time, he has worked to establish a permanent local evaluation capability to monitor the project (currently in about 66 percent of the primary schools up to the fourth grade, with about 160,000 students). The German and Belgian governments, although not contributing to the funding of the ITV project, promised to contribute to its evaluation. The U.S. government has made a similar promise. In 1974, the Ivorian government decided to use the television available in primary schools in a large number of villages to promote an increased effort in adult education. An out-of-school television unit was created and a large pilot experiment began in October 1974. The American contribution to research was to evaluate the impact and potential of this effort, which Stanford has been asked to undertake. Frans Lenglet, a graduate student in the Institute, has been in the Ivory Coast for the past year working on the project.

Various International Projects Using Radio in Education and Development

McAnany prepared an article on "African Rural Development and Communication: Five Radio-Based Projects," which will be published in Rural Africana: Current Research in the Social Sciences, by the African Studies Center, Michigan State University. It deals with projects in Botswana, Dahomey, Niger, Senegal, and Tanzania. Two other articles by McAnany were translated into Spanish. One, "Impacto de las Escuelas Radiofonicas de America Latina en la Educacion: Una Perspectiva Evaluativa," has appeared in the Revista del Centro de Estudios Educativos (no.2, 1975). This article reviews the hoped-for potential of communication technology in nonformal education in Latin America, and notes that what has been missing in most cases where technology has been tried is a thorough evaluation of its impact. The second article, "El Papel de la Radio

en el Desarrollo: Cinco Estrategias de Utilizacion," was published by Acción Cultural Popular in Bogóta in November, 1974. This is a translation of McAnany's "Radio's Role in Development: Five Strategies of Use" published by the Information Center on Instructional Technology of the Academy for Educational Development, Washington, D.C. in September 1973.

In November 1974 Mayo and Hornik traveled to Nepal as members of a six person mission sponsored by UNICEF, the British Council and AID to study the use of radio in Nepal. Mayo was the leader of the team. Its report, "Development Radio for Nepal", was completed in February. Mayo, McAnany and Steven Klees of the Faculty of Education at Cornell University also contributed a report entitled, "The Mexican Telesecundaraia: A Cost-Effectiveness Analysis" to a special issue of Instructional Science on media projects for educational purposes.

UNESCO sponsored a survey of the field of cross-cultural broadcasting to document what is known about its effects. Eduardo Contreras, James Larson, both graduate students in the Institute, Mayo and Peter Spain explored the cultural, linguistic, psychological, and political influences in a report prepared for UNESCO entitled "The Effects of Cross-Cultural Broadcasting."

McAnany, Spain, and Dean Jamison of the Educational Testing Service are editing a volume on radio for education and development for the International Bank for Reconstruction and Development (the World Bank). The book will contain case studies, some synthetic and planning chapters and an annotated bibliography. Among those contributing chapters will be Jamison on the use of radio for formal education; McAnany on the use of radio for nonformal education; Spain on Mexico's Radioprimaria; Kreimer

on the use of satellites for health care delivery in Alaska; Hudson on community radio in Canada's North; and Parker on the uses of telecommunication systems.

Work is continuing on the SPIRES (Stanford Public Information Retrieval System) project. The Institute's extensive development files containing research reports and descriptions of media projects are being organized into a SPIRES file to improve accessibility. Graduate students Rina Alcalay, Eduardo Contreras, Manuel Figueroa, Janus. Larson O'Sullivan, and Jorge Schnitman are working as research assistants classifying the contents of the files.

Master of Arts in Communication Media and Social Change

In the fall of 1974 a new two-year Master's program, entitled "Communication Media and Social Change" began. Training in the first year consists of courses on communication and development theory, statistics and research methods with opportunity for study in areas of individual interest. Students in the second year are expected to design and carry out a field research project, returning to Stanford to analyze and prepare their findings in the form of a Master's thesis and, where necessary, take additional course work. The program is designed to benefit candidates from Asian, African, and Latin American countries who are presently engaged in communication projects or who are affiliated with agencies or institutions sponsoring communication research.

In the first year of the Master's program, ten students were enrolled. Their national backgrounds and areas of research are as follows:

Nasrin Ameri (Iran)	Distance learning, the Open University of Iran
Annie Benveniste (France)	An evaluation of the educational television program for adults in the Ivory Coast
Eduardo Contreras (Chile)	The content of television programming and mass culture in international education in developing countries
Manuel Figueroa (Chile)	Mass media and rural development in Latín America
Tatiana Galvan (Mexico)	The Mexican political system and its legitimation through the mass media
Jerry O'Sullivan (Eire)	The use of communications media in education - evaluation of radio schools in Mexico and Venezuela
Joaquin Sanchez (Colombia)	Teacher training television programs in Colombia
Nan Suchato (Thailand)	Television violence and children in Thailand
Rosita Valencia (Philippines)	The use of visual aids in agricultural extension work in the Philippines
Jeffrey Yu (Hong Kong)	Effects of a public sanitation campaign in Hong Kong

Doctoral training in the area of international communication continues as before. There will be twelve students in the program in 1975-76.

Networking and Conferences

Continuing to maintain contacts and to establish new relationships with institutions interested in similar programs, with international agencies, and with institutions in the Third World, Institute members participated in conferences and visited projects of interest.

The principal conference within the past year was one co-sponsored by the Institute and the Centro de Estudios Educativos of Mexico City held in Oaxtepec, Mexico, in February. This conference brought together project directors and researchers to discuss the need for research and evaluation of projects which use radio for education and information in Latin America. Participants included six members of the Institute - McAnany, Mayo, Hornik, Kreimer, O'Sullivan, and Spain. Also attending were Hernando Bernal Alarcon (Planning and Evaluation Department of Acción Cultural Popular (ACPO)); Estela Barandarian de Garland (Catholic Univeristy, Lima); Regina Gibaja (Capacitación Popular, Bogóta); Jorge Trías (Acción Cultural Loyola, Sucre, Bolivia), who is also the president of ALER; Pablo Latapi, and many other members of the Centro. Kreimer, coordinator for the conference, has prepared a summary in Spanish along with the conclusions of the participants, which will appear in the Revista del Centro de Estudios Educativos. The report will also appear in English.

Nelson delivered an address entitled "Communication for Human Understanding" to the International Conference on Communication convening in Acapulco, October 21-26, 1974. Prior to this conference, Nelson attended the annual meeting of the South Pacific Commission in Rarotonga from

September 24, 1974. Early this spring (May 1-7, 1975), Nelson participated in the East-West Conference on "Communication in the Pacific."

Mayo and Spain are working on a conference design in conjunction with the National Institute of Education, the World Bank, AID and the Department of Health, Education and Welfare. At present the initial planning foresees a conference for national planners and decision-makers which will assist them in allocating their resources for media projects. The need for integrated national planning and full utilization of any media component at this time of rapid technological advances indicates that such a conference can serve a practical purpose.

Nelson has maintained an active schedule as a visiting lecturer to a number of international universities. During the past year he was a visiting faculty member at the Chinese University of Hong Kong, lectured at the National Chengchi University of Taiwan, and spent two weeks in India as a consultant for the Ford Foundation. On the occasion of the 40th anniversary of the founding of the Autonomous University of Guadalajara, Nelson delivered one of the principal addresses entitled, "Television as an Instrument of Education -- Its Advantages and Possibilities and Risks."

Hornik and Kreimer spent a week at the Centro de Estudios Educativos in Mexico City giving lectures and participating in seminars.

McAnany, at the invitation of Sr. Alvaro Galvez y Fuentes, Director of the Instituto Latinoamericano de la Comunicación Educativa (ILCE), attended a seminar in Mexico City which was jointly sponsored by ILCE and UNESCO on the uses of television in secondary education.

Hornik visited the Loyola campus of Concordia University in Montreal, Canada, at the invitation of Professor John O'Brien of the Department of Communication Arts, and participated in a symposium entitled "Media, Man and the Creative Process."

Spain attended a seminar at the Center for Educational Technology, Florida State University, which had invited Monsignor Jose Salcedo, the founder of ACPO, to participate in two days of round table discussions. Invitees included officials from AID, the Organization of American States, Florida International University, Pittsburgh University, Michigan State University, Florida State University, and the University of Houston. Salcedo and his work in Colombia provided the focus for the two days.

Kreimer worked in Colombia for the month of May as a consultant to Capacitacion Popular, a movement for adult education sponsored by the Ford Foundation.

McAnany, O'Sullivan and Spain visited the Instituto Tecnologico y de Estudios Superiores del Occidente in Guadalajara, Mexico, where O'Sullivan was a member of the communication faculty.

Spain visited the Radioprimaria project in San Luis Potosi, Mexico, to learn of its progress since his 1972 research there.

McAnany and O'Sullivan visited Radio Santa Maria in Santo Domingo, the Dominican Republic, and attended a meeting of the Associacion Latinoamericano de Escuelas Radiofonicas (ALER).

Nelson is presently serving a second term as chairman of the Board of Foreign Scholarships of the U.S. National Fulbright Commission. The

Commission has the responsibility for establishing policy and overseeing all U.S. cultural and educational exchanges.

IRAN: DEVELOPMENT OF A COMMUNICATION SATELLITE SYSTEM

Parker is co-principal investigator with Bruce Lusignan of electrical engineering on a three-year contract with National Iranian Radio Television (NIRT) to assist in planning a domestic communication satellite system, including educational television services and rural telephone.

The project has two main parts. First, it is examining the most feasible technical design for the satellite and ground stations. Second, it is evaluating how educational television and telecommunication services can help meet the educational objectives of Iran.

Stanford planning includes budget estimates, detailed technical specifications and recommendations for competitive bidding for both satellite and ground stations.

It is expected that from 12 to 16 major-city ground stations will originate and receive television transmission and provide telephone interconnection. Five thousand to twenty thousand small rural stations will be able to receive television and provide telephone interconnection. Plans for the most efficient scheme to route telephone calls between satellite ground stations and plans for implementing the system in each community are also being developed. One major consideration is the possibility that Iran will manufacture its own ground stations.

For Iran to best meet its educational needs through utilizing ETV and supporting telecommuncication services the costs of space, equipment

and staff needed to produce these courses from the simplest video classroom to the more complex studio production techniques are being reviewed. Comparisons will also be made with the U.S. experience in implementing ETV.

Some of Iran's educational objectives may be potentially enhanced by preparing video curricula and production techniques that are suitable, with little modification, for a number of other countries. Here the direct costs to Iran would be reduced by sales to other countries of these video educational packages. Other content must be specific to Iran or to local cultures within Iran.

Rural learning centers to provide a wide range of adult training and educational programming are being proposed. Although economic projections show that a town of 5,000 to 10,000 could support a center offering a wide range of learning opportunities, there may be problems in the social acceptance of a new facility in towns that are small and relatively isolated. To plan centers that will be culturally acceptable, information is being gathered on the organization and interaction within Iranian villages.

A model for village learning centers and for establishing guidelines for training those who will staff the centers is being prepared.

In addition to developing telecommunication services, NIRT is interested in establishing a storage and retrieval archive for films and tapes. A report has been completed, recommending procedures for such an archive. After reviewing a number of American broadcasting and film library archival systems, plus companies who manufacture such systems, the

report concludes that the needs of NIRT are best served by a computer-based search and retrieval system for film and tape materials and a computer-driven microfilm system for the storage and retrieval of written records.

Assisting on the project are Hudson, Breitrose, and Dr. Michael Sites of the Communication Satellite Planning Center in the School of Engineering. Consultants to the project are Dr. James Janky and Dr. Larry Brekka. The NIRT group is headed by Rouben Hagopian and includes Mehrada Ayrom, Mehdi Kian, Mohamad Karimi, Ali Mohammadi and Assad Mortazavi. The research assistants at the Institute contributing to the project are Tom Putnam, Janet Bauer, and Elspeth Elliot. Assisting with the technical design are several research assistants from Electrical Engineering.

EDUCATION R & D: THE DATABOOK

William Paisley-Butler, assisted by Matilda Butler-Paisley and Karen Shapiro, has completed The Status of Educational Research and Development in the United States: 1975 Databook for the National Institute of Education. Congress directed the National Institute of Education to help build an effective research and development system for education. The Databook describes the recent history and present status of educational research and development (R&D) in the United States. The first Databook has been released and a revised version will be available in October.

In the Databook, R&D is viewed as a process, a set of activities that begins with problem definition and proceeds through phases of theoretical analysis, methodological planning, empirical study, data analysis and interpretation, to outcomes ranging from new materials, devices and arrangements for instruction to recommendations for educational policy. Research projects follow these phases more closely than development projects, which cycle through development and field testing phases until a new product meets its design criteria.

The Databook has seven chapters. Chapter 1 is the organization of the book and general introduction to its use. Chapter 2 presents a statistical overview of the status of American education in order to provide a context for the subsequent discussion of educational knowledge production and utilization (KPU).

Chapter 3 describes patterns and trends of educational KPU sponsorship. The complementary sponsorship roles of federal, state, and local governments; foundations; and commercial sponsors are emphasized.

Three chapters dealing with the structure and process of educational KPU follow. Chapter 4 deals with the conduct of R&D; Chapter 5 deals with dissemination of R&D outcomes; Chapter 6 deals with utilization of R&D outcomes. The three chapters focus on organizations and personnel that provide capability for each KPU function, as well as activities that are encompassed by each function.

Chapter 7 begins a discussion of emerging factors that will affect educational KPU in the future. It is expected that future trends will be discussed more adequately in later versions of the Databook.

EDUCATIONAL LINKAGE PROGRAM

A project for the National Institute of Education on design for an evaluation of multiple variations of educational linkage programs was recently completed by Butler-Paisley, Paisley-Butler, and Mick. In Phase I the wide variety of linkage programs operating in the educational system was surveyed. Nine primary types were chosen for study. These are information centers, professional association information programs, other information programs, publishing for educators, broadcasting for educators, teacher centers, school study councils, technical assistance programs, and inservice training programs.

In Phase II an evaluation procedure that focused on linkage services, costs of services, and client reactions to services was designed. This design was field tested in several sites. A client reaction questionnaire

was distributed to the users of ten centers. The service and cost information was collected directly from the centers during site visits.

The report entitled, "Communication for Change in Education: Education Linkage in the 1970's," has been recently published by the Institute.

Susan Heck and George Schement were the research assistants on the project. Coding of data was ably done by Sheridan Crawford and Violet Lofgren.

Communication Research on the Media

MASS MEDIA IN POLITICAL SOCIALIZATION

Donald Roberts, Robert Hawkins, an Assistant Professor in the School of Journalism and Mass Communications, University of Wisconsin, and Suzanne Pingree of the Institute, completed a paper entitled, "Do the Mass Media Play a Role in Political Socialization?" for a special symposium on mass media in the Australian and New Zealand Journal of Sociology. The paper is based on an analysis of data gathered from sixth and tenth grade children as part of a larger panel study of media influences on the political socialization of children that was conducted during the 1972 national election campaign. This particular paper focuses on data gathered just prior to the primary election and again at the peak of the national campaign in response to items dealing with public affairs media use, interpersonal political discussion, family communication structure, political knowledge and political attitudes. Results indicate that older children were more likely than younger children to engage in communication behaviors relevant to politics, to have more knowledge about parental party affiliation, to be more accepting of interparty conflict. Across the

course of the election campaign there was a significant increase in attention to public affairs media and in knowledge of parental party affiliation and a tendency toward more political discussion, regardless of age. Among tenth graders, amount of public affairs media use was positively related to greater knowledge of parents' party and more acceptance of interparty conflict. Finally, family communication structure was shown to exert a strong influence on teenagers' interpersonal political discussion, and among both age groups it located differences in knowledge of parents' party and in attention to public affairs media content.

TELEVISION AND CHILDREN

Roberts, in conjunction with a number of undergraduate students, is conducting pilot work on the televiewing behavior of pre-schoolers. Children between the ages of 2 ½ and 4 ½ are being observed as they watch television in their own homes. In addition, open-ended interviews with the children dealing with such questions as their favorite programs, their perceptions of the reality of television content, what they do and do not like about the medium, and who controls the television set are being conducted. Finally, an extensive interview with parents completes the data base. Analyses of these data are expected to begin in the early autumn.

Roberts is currently summarizing all of the research relevant to the social effects of television on children. The resulting paper will be part of a book reviewing all of the research literature on television, its uses and its effects.

WOMEN AND THE MEDIA

Stanford University's Women and the Media research group is composed of women from Communication, Psychology, and Education. A mini-grant from the Ford Foundation through the Center for Research on Women at Stanford has provided the context for bringing together this interdisciplinary group to explore a variety of issues related to women and the media.

The achievement of each decade is possibly influenced by what is referred to as its perceived "images of potentiality". Women in the 1970's continue to see many of the same limiting media portrayals that all women in this century have seen. To a certain extent, this normative media image reflects our society. However, it also creates the agenda of the future. The focus of the Women and the Media research group is to work toward the full and equitable access to images of potentiality for both women and men.

Specifically, the project has focused on an exploratory study of how advertising agencies make decisions about the image of women and how that image can be changed. Sources for documentation are the existing literature on the amount of control that advertising agencies versus their clients have over the content of ads. In addition, some interviews have been conducted to clarify those issues that require more detailed investigation.

From this "control analysis" three types of preliminary recommendations for changing the image of women as portrayed in the media have emerged. These are based on our understanding of current images of women, previous attempts to create change, and the decision-making

processes in advertising agencies. The recommendations focus on who should discuss change with the agencies, who in the agencies should be approached, and what information should be conveyed to the agencies.

An initial draft is now in progress and the final report will be available in the fall. Women involved in the project include Sheridan Crawford, Donna Kolkin, Sharon Nash, Theresa Odden, Karen Shapiro, and Sonya Sokolow. Matilda Butler-Paisley has advised the study.

Additional Studies in Communication Research

THE INFORMATION ECONOMY

Parker and Marc Porat, a doctoral candidate in Communication, are continuing to investigate the growth and emergence of the information sector in the U.S. labor force and industry.

A preliminary investigation examining the segment of the labor force that primarily produces, processes or distributes information goods and services, and how that labor force is distributed among industries, is reported in "Defining an Information Sector in the U.S. Economy" by Porat*. The U.S. labor force is re-aggregated into two groups: (a) information workers whose output is essentially information production, processing and distribution, and (b) all other workers, including services, industry and agriculture. Data show that by 1975 approximately 50 percent of the total labor force is concentrated in the information sector. This shift

*Porat, Marc U. "Defining an Information Sector in the U.S. Economy." Stanford, California: Stanford University, Center for Interdisciplinary Research, Program in Information Technology and Telecommunications. Report No. 15, February 1975.

from an industrial to a post-industrial, or an information society, occurred between 1950-1975.

Further research on the implications the information ecology has on the social, political and economic policies is indicated.

Earlier this year Parker presented a paper on the importance of such research to a conference convened by the Organization for Economic Cooperation and Development on Computer/Telecommunications Policies, which was held in Paris. The purpose of the conference was to inform senior government officials on the effect computers and telecommunications will have on the quality of life, the allocation of major national resources and the adequacy of our present institutions to accommodate them.

Parker's address, the "Social Implications of Computer/Telecommunications Systems"* emphasized the need for effective policy planning to deal with issues in the economics of information: among them economic productivity goals, natural resource constraints, inflation and international dependence. He describes how education, finance, trade, commerce, public administration and health will be substantially affected by computer/telecommunication technology. He argues that economics based largely on information services will require new indicators of economic statistics appropriate for an information economy, the creation of an expanded infrastructure for computer-communication facilities, including time-shared digital data networks with redundant channels and error-checking procedures, and the development of policy for the rights of access to information networks for both transmission and receipt of information.

*Parker, Edwin B. (with Marc Porat) "Social Implications of Computer/Telecommunications Systems" Stanford, California. Stanford University: Center for Interdisciplinary Research, Program In Information Technology and Telecommunications. Report No. 16, February 1975.

Porat is presently analyzing the information activity in the U.S. economy by using two methods: (a) by disaggregating the National Income Accounts at the 7-digit Standard Industrial Code (SIC) level to "pull out" the information components, and (b) by building an Input-Output Matrix at the 484-order (i.e. a division of the economy into 484 segments). Once these tools have been built, several policy issues relating to the structure of information production and distribution in the economy can be tackled. Porat is planning to present a time series, circa 1947-1973, showing the information component of the Gross National Product (GNP) both in final demand and value added terms. Studies of personal consumption expenditures, gross capital formation, exports, and government purchases of information goods and services will be presented. Also, the Input-Output matrix will be "bridged" into the Industry-by-Occupation matrix. In combination, these two tools will permit improved analysis of the economic effects of possible changes in national information policies.

Porat has also completed a paper entitled, "The Information Economy and the Economics of Information", a survey of recent literature in the economics of information. Two major problems are identified and discussed: (a) markets for information: how information behaves or misbehaves as a market commodity: and issues of property rights in information, (b) information in markets: how markets behave under conditions of chronic uncertainty; and issues of market equilibrium, planning, and efficiency.

This work has been supported in part by a National Science Foundation grant to study the economics of computer networking. Professor Donald Dunn of the Engineering Economic Systems department is Principal Investigator.

NETWORKING ANALYSIS

Until 1970, investigators wishing to analyze the network of communication relations in organizations had to do the analysis by hand. An analysis for a system having between two and three hundred members would take several months to complete. The work was tedious, mistakes were easily made and detected with difficulty. While completing his undergraudate work and serving as a computer consultant in research services in the Department of Communication at Michigan State University (MSU), William Richards observed a manual network analysis of part of a regional office of the Office for Civil Defense. The expanse of this analysis and the lack of a computer program to facilitate such an effort induced Richards to begin work on the deisgn of a computerized network analysis program. Much of the initial work was done using MSU's CDC 6500. The current version of the program is now working at three locations: State University of New York at Buffalo, Michigan State University, and Communimetrics, a San Jose-based consulting corporation. A thorough documentation is found in "A Manual for Network Analysis."*

Network analysis is a way of examining the networks of communication in large organizations or social systems of different types. Some systems that have been studied with this methodology include Chase Manhattan Bank, the Office for Civil Defense, several school systems in Michigan and one in Florida, several subsets of Naval installations, the offices of the National Institute or Education, and several commercial firms. The

*Richards, William D. A Manual for Network Analysis, Using the NEGOPY Network Analysis Program. Stanford California: Stanford University, Institute for Communication Research. August 1975.

current version of the program can handle data from networks having up to 4095 persons with up to 32,767 links between them. The program gives an extensive description of the structure of the system at each of three levels of analysis -- the individual, the group, and the whole system.

This approach differs from others in that it allows the system to be studied as an intact, functioning unit, rather than as a collection of separate individuals. It examines the importance of relationships between individuals, as well as the individuals themselves. Network analysis provides a picture of the organization as it works, rather than as someone thinks it does. It gives managers of large organizations an accurate conception of their organization's structure and makes it easier to monitor the workings of their system. Now that the program has been successfully implemented plans for its future development are:

1) To re-write it in IBM FORTRAN; it is currently written in CDC Extended FORTRAN. This would make it available to a much wider group of users. The new version would be broken into a series of modules, each of which would perform a single logical step in analysis, allowing for more flexibility than the present single monolithic program.

2) Extending it to include cross-time capabilities, so that changes in system structure over time can be studied. This will be very useful for the development of a dynamic theory of system structure, which would be used to predict changes in system structure or performance of other changes.

PUBLIC AFFAIRS

William Rivers and two Ph.D. candidates in Public Affairs Communication, Susan Miller and Oscar Gandy, have produced a bibliography on Media and Government. They have also written a chapter for a Sage book, Political Communication, which also springs from their media-government research. Finally, they are writing an analytical book on media and the government, which is supported by the Markle Foundation. It is designed to show what is now known about media-government relationships and what further research is most needed.

RESEARCH-IN-PROGRESS

Listed below are brief summaries of projects being conducted by those completing their graduate studies in the Department of Communication. If there is interest in seeking more detail on any one of these projects, inquiries can be directed to the specific individual(s) in care of the Institute.

An Analysis of the FCC

For the past year George Schement, Timothy Haight, Stephen Soriano, and Oscar Gandy have been conducting an analysis of the Federal Communications Commission. One of the case studies has been accepted for publication in the Journal of Communication. The project team is presently reanalyzing some of the Commission decision data for additional articles and for submission to the International Communication Association. By the end of 1976 it is anticipated that all of these related studies can be combined into a major publication.

Use of Video in Courtroom Decision-Making

Under a grant from the division of Social Sciences at the National Science Foundation, Mary Connors conducted a study concerned with the impact of using video technology in the courts. This project was the basis for Connors' recently completed dissertation.

One-hundred and twelve subjects served as jurors in a series of mock trials conducted at Stanford's Law School. Each of four trials was observed by a jury in the courtroom as it occurred, at which time it was recorded on video tape. Several days later, the video tape was shown to another jury. The trials lasted between 5-6 hours. The subject matter for each of the four trials was the same.

In each trial the jurists were questioned to determine if they could be impartial. After each trial the jurists deliberated their decision for one hour. Half of the jurors in each trial completed questionnaires prior to deliberating and half after deliberating.

The results show many similarities between the responses of live and video jurors. There was no evidence of differences in sympathy for or identification with the participants related to the viewing conditions. Nor were there any significant differences in verdicts related to viewing conditions. Only for the more significant participants (i.e., the attorney) did some differences in perception emerge as a result of viewing conditions. Some attorneys were perceived more positively along the activity and approachability dimension when seen on video. Attorneys who benefitted by being seen on video were those who have been perceived less positively than their colleagues in the live situation.

This research is related to a larger framework of similar research being conducted, in an attempt to form a theoretical base from which pertinent questions can be considered further.

Studies on Sexism

Suzanne Pingree, who recently completed a dissertation on the effects of nonsexist television commercials, is continuing with content analysis of television commercials for sexist and nonsexist content. She has co-authored (with Hawkins, Butler-Paisley, and Paisley-Butler) an article for the Journal of Communication that is now in press entitled "Keeping Her in Her Place: A Consciousness Scale for Media Sexism." Presently, she is working on a developmental study of responses to success and failure in medical school by women or men. In addition to her work on sexism, Pingree is undertaking a study of children's communication skills under varied conditions of task difficulty and task salience.

Media Studies

Bruce McKay was in residence at the Institute this past year preparing for his dissertation an extensive amount of data he collected on decision-making within the English television service of the Canadian Broadcasting Corporation. He is the author of "KQED" and Its Audience: A Survey of Television Viewing in the San Francisco Bay Area, 1970," which is available through the ERIC Clearinghouse. McKay's graduate program and research at the Institute has been supported by a Doctoral Fellowship from the Canada Council.

Susan Miller presented a paper on the "Changing News Coverage of Women: How Editors View the Problem," for the annual meeting of the Association for Education in Journalism held in Ottawa, August 16-19, 1975. Miller, a doctoral candidate, has focused her research on the analysis of the news media. She is the author of "The Content of News Photos Women's and Men's Roles," published in Journalism Quarterly in the Spring 1975 issue. Miller has in press an article on the "Changing News Coverage of Women" for The Bulletin, a publication of the American Society of Newspaper Editors.

William Slater, a doctoral candidate, has been undertaking a study on broadcast employment to determine what qualities an employer seeks when hiring a broadcaster. Slater cooperated with Professor Rivers in the publication of the Aspen Handbook on the Media. At present, he is completing his dissertation on the study of the White House Press Corps and this fall, will be assistant professor of communication at the University of Washington.

Raymond Panko recently completed his dissertation on the consumer demand for pay television. At present he is a communication analyst at Stanford Research Institute's Augmentation Research Center conducting research on consumer demand for pay television, on computer teleconferencing and on computer systems for knowledge workers.

PART II

DISSERTATIONS PUBLICATIONS PERSONNEL

Dissertations

The following dissertations were completed in 1974-75.

Mary Connors

Use of Video in Courtroom Decision-Making.

Jon Jennings

The Regulators and the Regulated; A Study of Broadcasters Perceptions of the Federal Communication Commission Members and FCC Voting Behavior.

Osvaldo Kreimer

Interactive Satellite Radio and Health Care Delivery in Village Alaska.

Susan Krieger

COOPTATION, A History of a Radio Station.

Emmett Lampkin

Adolescents and Television: A Cross-Cultural Comparison of Uses and Needs.

David G. Markle

Empirical Development and Application of Methods of Formative Evaluation.

Anthony J. Meyer

The Diffusion of Innovation; Hierarchical vs. Eglitarian Models.

Raymond Panko

Pay Television and Free Television: A Policy Assessment Based Upon a Projection of Future Consumer Demand for Pay Television.

Suzanne Pingree

A Developmental Study of the Attitudinal Effects of Nonsexist Television Commercials Under Varied Conditions of Perceived Reality.

John Polich

Mass Media Accountability and Management

The following dissertations are among those in progress in 1974-75:

Kenneth E. Bowman

Communication and Social Change: Black Decolonization Media

Charlene Brown

Information Policies of the FCC

Jesse Caton

Structuring Textual Information via Computer for Flexible Medium, Format and Content Utilization,

Dean Chavers

Social Structure and the Diffusion of Innovations

Michel Guite

Evaluation of Cable Television Technologies for Community Dialogue

Peter Johansen

Cablecasting Municipal Government Proceedings in Canada

Dennis Foote

A Case Study Evaluation of a Satellite Video Telemedicine Project in Rural Alaska.

David B. Jones

A Structural-Functional Analysis of the National Film Board of Canada.

Bruce McKay

Management Program Decision Making in the English Television Service of the Canadian Broadcasting Corporation, 1970-1974.

Richard Miller

Development of a Methodology for the Assessment of the "Health" of the Scientific and Technical Information System in the U. S.

Susan Miller

News Coverage and Agenda-Setting: Congress and the Press.

Joyce Donovan Nash

The Effects of Two Remedial Treatments for Curbing the Drop-out Problem in Behavior-Change Therapy: The Alleviation of "Learned Helplessness" and Lack of Commitment.

Marc Porat

The Information Economy.

Lloyd Prentice

Social Control of the Broadcast Media.

William Richards

A Coherent Systems Methodology the Study of Human Communication Networks.

Leonard Sellers

Investigative Reporting: Methods and Barriers.

William Slater

The Washington Elite: A Study of the White House Press Corps.

Daniel Smith

Socialization and Media Use in the Northern Marianas.

Recent Publications

Listed below are current books, articles, reports and papers presented recently by members of the Institute. The books and monographs in print are available either through the given publisher or through commercial book sellers. Reprints of articles and papers are generally limited and in some cases are not available; however, inquiries can be directed to the individual authors in care of the Institute. Reports published by the Institute for Communication Research are available directly from the Institute for a nominal postage and handling charge. Inquiries about reports published elsewhere should be directed to the individual author at the Institute or to the source given.

BOOKS AND MONOGRAPHS

Comstock, G. & Lindsey, G. Television's influence on human conduct: The research findings, present and future. Santa Monica, California; The Rand Corporation, 1974.

Mayo, J., Hornik, R., McAnany, E. Education reform with television: The El Salvador experience. Stanford, California; Stanford University Press, 1975 in press.

Paisley-Butler, W., Butler-Paisley, M. & Shaprio, K. The Status of educational research and development in the United States; 1975 data book. Washington, D.C.; National Institute of Education, 1975.

Rivers, W. L. The mass media: reporting, writing, editing. (Second edition) New York: Harper & Row, 1974.

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Hawkins, R. P., Pingree, S., Roberts, D. F. Watergate and politcal socialization: The inescapable event. American Politics Quarterly, 1975 in press.

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Johansen, R., Miller, R. H., & Vallee, J. Group communication through electronic media; Fundamental choices and social effects. Educational Technology, August 1974, 24:8.

Kreimer, O. Radio educacion en America Latina: Recomendacions del Seminario de Oaxtepec, Mexico, February 1975. Revista del Centro de Estudios Educativos, 1975.

Kreimer, O. Abrete, sesame: Un modelo para el analisis del mensaje educativo a distancia. Revista del Centro de Estudios Educativos. 1975 in press.

Lindsey, G. A review of John Sutherland's a general systems philosophy for the social and behavioral sciences. Journal of Communication 1974, 24, 168.

Maccoby, N., Markle, N. H., & Markle, D. B. The role of television in literacy problems. In J. B. Carroll (Ed.) Learning to Read. Washington, D.C.: National Academy of Education, 1975 in press.

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Maccoby, N. Effects of mass communication (the media) and the dissemination of information on shaping consumer and provider values in health. In Health Care and Changing Values. Washington, D.C.: National Institute of Medicine, National Academy of Sciences, 1974.

Maccoby, N. & Funkhouser G. R. An experimental study on communicating specialized science information to a lay audience. Communication Research, 1974, 1:1.

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Mayo, J., McAnany, E., & Klees, S. The Mexican telesecundaria: A cost-effectiveness analysis. Instructional Science, in press.

McAnany, E. El papel de la radio en el desarrollo: Cinco estrategia de utilizacion. Accion Cultural Popular (Bogota), November 1974. (Translation of Radio's role in development: Five strategies of use. Washington, D.C.: Academy for Educational Development, Information Center on Istructional Technology, 1973).

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Paisley-Butler, W. Library and information needs of scientists and technologists. In Proceedings of a Conference on the Library and Information Needs of the Nation. Washington, D.C.: Government Printing Office, 1974

Parker, E. B. Cable television in Palo Alto and at Stanford University. Cable Television and the University: Proceedings of the conference, EDUCOM. Princeton, N.J.: Educational Testing Service, January 29-31, 1974, 171-183.

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Rogers, E. M. & Agarwala, R. Organizational communication. In G. J. Hanneman & W. J. McEwen (Eds.) Communication and behavior. Reading, Massachusetts:Addison-Wesley, in press.

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Richards, W. D. A manual for network analysis (using the NEGOPY network analysis program). Stanford, California: Stanford University: Institute for Communicaiton Research, June 1975.

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Butler-Paisley, M. and Paisley-Butler, W. The implications of communication research for managing and using the library. Address to the American Library Association, 1975.

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Hudson, H. E. Communication and the development of rural Alaska. Paper presented at the Alaska Rural Media Conference, Fairbanks, Alaska, July 22, 1975.

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INSTITUTE PUBLICATIONS IN ERIC

A selected list of Institute publications in ERIC (Educational Resources Information Center) is presented on the following pages. The accession number or "ED" number is listed to identify a document when ordering. All of the documents listed are available either in microfiche or hard copy. For complete information on ordering and current prices of these publications, please consult the appropriate issue of Resources in Education (RIE).

RIE is a monthly abstract journal and index which identifies recently completed research or research-related reports, books, and other documents of educational significance, regardless of source. RIE is available at most college and university libraries and from public libraries. The current ED numbers covered are shown on the spine of each monthly issue of RIE.

ERIC is a national information system dedicated to the dissemination of educational research results, research-related materials and other resource information that can be used in developing more effective education programs.

ERIC maintains a network of clearinghouses, each of which is responsible for particular educational areas. For example, the ERIC Clearinghouse on Information Resources is located at the Stanford Center for Research and Development in Teaching. For further information on their offerings, please write to:

The ERIC Clearinghouse on Information Resources
SCRDT
School of Education
Stanford University
Stanford, California 94304

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P. O. Box 190
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(703) 841-1212

Orders must be prepaid, including cost of postage. To repeat, complete information on ordering documents is given in RIE.

The following list is in alphabetic order by author:

Measurement of Listening Comprehension via Television in Elementary School Spanish Instruction; Results in First, Second, and Third Year Research. Denver-Stanford Project on the Context of Instructional Television.
(Andrade, M. and others)
ED 035 269

Measurement of Speaking Skills in Elementary Level Spanish Instruction. Denver-Stanford Project on the Context of Instructional Television, Report Number 9.
(Andrade, M. and others)
ED 018 153

Social and Psychological Predictors of Information Seeking and Media Use: A Multivariate Reanalysis.
(Butler-Paisley, M.)
ED 017 819

Reaching Adults for Lifelong Learning. I. Final Report and Summary.
(Butler-Paisley, M.)
ED 068 792

Reaching Adults for Lifelong Learning. II. Case Studies of Exemplary Programs.
(Butler-Paisley, M.)
ED 068 793

Reaching Adults for Lifelong Learning. III. Directory of Reporting Programs and Statistical Tables.
(Butler-Paisley, M.)
ED 068 794

Social Policy Research and the Realities of the System: Violence Done to TV Research.
(Butler-Paisley, M.)
ED 062 764

The Structure and Process of School-Community Relations. Volume I. Informal Communication about Schools. Project: CAST.
(Carter, R. F. and others)
ED 017 054

The Structure and Process of School-Community Relations. Volume II. Between Citizens and Schools. Project: CAST.
(Carter, R. F. and others)
ED 017 055

The Structure and Process of School-Community Relations. Volume III. The Structure of School-Community Relations. Project: CAST.
(Carter, R. F. and others)
ED 017 056

The Structure and Process of School-Community Relations. Volume IV. The Process of School-Community Relations. Project: CAST.
(Carter, R. F. and others)
ED 017 057

The Structure and Process of School-Community Relations. Volume V. The Structure and Process of School-Community Relations: A Summary. Project: CAST.
(Carter, R. F. and others)
ED 017 058

The Interview: An Educational Research Tool. An Occasional Paper from ERIC at Stanford.
(Collins, A.)
ED 044 931

A Basic Reference Shelf on Programmed Instruction. A Series One Paper from ERIC at Stanford.
(Glaser, R. and others)
ED 019 013

Readership Study of the "Review of Educational Research."
(Harris, L. S.)
ED 027 050

Audio-Lingual Results in the Second Year of Research -- 1961-62. Denver-Stanford Project on the Context of Instructional Television. Report Number 8.
(Hayman, J. L., Jr., and others)
ED 018 169

A Further Search for Elements of Tomorrow's Classroom. Denver-Stanford Project on the Context of Instructional Television. Report Number 12.
(Hayman, J. L., Jr., and others)
ED 018 167

Causative Factors and Learning Related to Parent Participation. Denver-Stanford Project on the Context of Instructional Television. Report Number 13.
(Hayman, J. L., Jr., and others)
ED 018 168

A Basic Reference Shelf on the New Media and Teacher Training. A Series One Paper from ERIC at Stanford.
(Ingle, H. T.)
ED 019 011

Television and Educational Reform in El Salvador. Report on the Fourth Year of Research. Research Report Number 11.
(Ingle, H. T.; Ingle, Y. R.; Hornik, R. C.; Mayo, J. K.; McAnany, E. G.; and Schramm, W.)
ED 077 219

The Cost of Instructional Radio and Television for Developing Countries.
(Jamison, D.; Klees, S.)
ED 077 213

Studies of Innovation and of Communication to the Public. Studies in the Utilization of Behavioral Science. Volume II.
(Katz, E. and others)
ED 040 600

Children's Responses to Television Violence.
(Leifer, A. D. and Roberts, D. F.)
ED 054 596

Report Number 1. The Project as a Whole: Organization, Adaptation and Expansion.
(Maccoby, N.)
ED 020 663

Report Number 2. The Project's First Semester: Pupil Achievement, Teacher Attitudes and the Work of the Utilization Volunteer.
(Maccoby, N.)
ED 020 664

Report Number 3. Improving the Effectiveness of the Utilization Volunteer and the Utilization of ETV by the Colombian Teacher.
(Maccoby, N.)
ED 020 665

Report Number 4. The Colombian Teacher and the Utilization: Making ETV Work in the Schools of a Developing Country.
(Maccoby, N.)
ED 020 666

Report Number 5. The Day-to-Day Job of the Utilization Volunteer: Structure, Problems and Solutions.
(Maccoby, N.)
ED 037 997

Report Number 6. Instructional Television for the In-Service Training of the Colombian Teacher.
(Maccoby, N.)
ED 020 667

Report Number 7. Improving the Effectiveness of Peace Corps Efforts to Change Teacher Behavior.
(Maccoby, N.)
ED 037 995

Report Number 8. The Televised Curriculum and the Colombian Teacher.
(Maccoby, N.)
ED 020 668

Report Number 9. The Volunteers.
(Maccoby, N.)
ED 037 996

Report Number 10. Feedback to the Peace Corps on Project Progress. Some Models and Suggestions.
(Maccoby, N.)
ED 020 669

Reports Number 1-10. Overview.
(Maccoby, N.)
ED 017 185

The Peace Corps Volunteer and Achieving Educational Change with New Media.
(Maccoby, N.)
ED 037 998

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(Macconnel, J. D. and others)
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(Mayo, J. K. and Mayo, J. A.)
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ED 048 740

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(Paisley, W. J.)
ED 037 095

The Flow of (Behavioral) Science Information: A Review of the Research Literature.
(Paisley, W. J.)
ED 039 783

Information Source Preference as a Function of Physical and Psychological Distance from the Information Object.
(Paisley, W. J.)
ED 026 101

Patterns of Adult Information Seeking.
(Paisley, W. J.)
ED 010 294

Perspectives on the Utilization of Knowledge.
(Paisley, W. J.)
ED 037 094

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(Paisley, W. J.)
ED 022 503 (available from NTIS; order number not available)

Sources of Information on Social Issues: Education, Employment, Public Health and Safety, Population, Etc. A Brief Guide for Journalists and Others. An Occasional Paper from ERIC at Stanford.
(Paisley, W. J.)
ED 032 437

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(Parker, E. B.)
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Communication and Research Productivity in an Interdisciplinary Behavioral Science Research Area.
(Parker, E. B.)
ED 023 434 (available from NTIS; PB-179 569)

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(Parker, E. B.)
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Patterns of Adult Information Seeking.
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Requirements for SPIRES II. An External Specification for the Stanford Public Information Retrieval System.
(Parker, E. B.)
ED 048 747

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Social Implications of Computer/Telecommunications Systems
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SPIRES (Stanford Physics Information Retrieval System). Annual Report.
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(Parker, E. B.)
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(Parker, E. B.)
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Volume 1.
(Schramm, W.)
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Volume 2.
(Schramm, W.)
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Classroom Out-Of-Doors. Education Through School Camping.
(Schramm, W.)
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Communication Satellites for Education, Science and Culture. Reports and Papers on Mass Communication. No. 53.
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ED 018 133

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(Schramm, W.)
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(Schramm, W.)
ED 003 663

The Educational Media and National Development.
(Schramm, W.)
ED 017 188

Educational Television. The Next 10 Years.
(Schramm, W.)
ED 003 729

The Effects of Television on Children and Adolescents. An Annotated Bibliography with an Overview of Research Results. Reports and Papers on Mass Communication.
(Schramm, W.)
ED 017 197

Four Case Studies of Programmed Instruction.
(Schramm, W.)
ED 003 804

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ED 019 848

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(Schramm, W.)
ED 074 763

Knowledge and the Public Mind. A Preliminary Study of the Distribution and Sources of Science, Health, and Public Affairs Knowledge in the American Public.
(Schramm, W.)
ED 030 327

Learning from Television: What the Research Says.
(Schramm, W.)
ED 014 900

Motion Pictures and Real-Life Violence: What the Research Says.
(Schramm, W.)
ED 025 950

The New Media: Memo to Educational Planners.
(Schramm, W.)
ED 018 200 (available from UNESCO)

New Teaching Aids for the American Classroom: A Symposium Held at the Center for Advanced Study in the Behavioral Sciences, November 13-14, 1959.
(Schramm, W.)
ED 003 146

Occasional Papers on Programmed Instruction, 1. Programmed Instruction in Other Countries.
(Schramm, W.)
ED 003 803

Programmed Instruction: Today and Tomorrow.
(Schramm, W.)
ED 002 488

The People Look at Education Television: A Report on and from the Audiences of Eight Representative ETV Stations.
(Schramm, W.)
ED 003 148

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(Schramm, W.)
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(Schramm, W.)
ED 042 065

Television and Educational Reform in El Salvador. Complete Report on the Second Year of Research.
(Schramm, W.)
ED 067 895

What is Programmed Instruction: An Introduction for the Layman.
(Schramm, W.)
ED 003 801

What We Know about Learning from Instructional Television.
(Schramm, W.)
ED 002 561

INSTITUTE PUBLICATIONS AVAILABLE FROM NTIS

The following reports are available from the National Technical Information Service in Springfield, Virginia 22151. When ordering, it is necessary to indicate the NTIS accession number.

Feature Analysis of Interactive Retrieval Systems
(T. H. Martin)
NTIS Accession #: PB-235952/AS/LK -- Paper copy = $5.25 Microfiche = $2.25

Health Care and Satellite Radio Communication in Village Alaska
(O. Kreimer)
NTIS Accession #: PB-238742/AS/LK -- Paper copy = $11.25 Microfiche = $2.25

INSTITUTE FILMS AVAILABLE FROM UC EXTENSION MEDIA CENTER

The following films produced in conjunction with research projects conducted by the Institute are available for purchase or rental from:

University of California
Extension Media Center
Berkeley, California 94720

The films are 16 mm, in color, and run about 20 minutes each.

Satellite Housecall

A presentation of a health care delivery system -- based on satellite-aided voice communications -- in village Alaska.
Purchase price: $270.00 Rental: $20 per day

Access

An overview of operational features of some large computer-based interactive information retrieval systems.
Purchase price: $260.00 Rental: $20 per day

Educable

An introduction to the educational cable television idea, and some of its promises and problems.
Purchase price: $245.00 Rental: $19 per day

SPIRES/BALLOTS Report

An introduction to Stanford's Information Retrieval and Library Automation Systems. (Please consult wiht the Media Center on current prices).

Personnel and Organization

The Institute for Communication Research is one division of the Department of Communication. Lyle Nelson is chairman of the Department, Nathan Maccoby is Director of the Institute. The Institute was established in 1957 and directed by Wilbur Schramm until his retirement in 1973.

Other divisions of the Department provide training in journalism, broadcasting and film, and mid-career training for professional journalists. The Department provides programs leading to the B.A., M.A., and Ph.D. degrees.

MEMBERS OF THE SENIOR STAFF:

Nathan Maccoby, Director
Janet M. Peck Professor of International Communication

Henry Breitrose
Associate Professor of Communication

Robert Hornik
Assistant Professor of Communication

John Mayo
Assistant Professor of Communication

Emile McAnany
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Lyle Nelson, Chairman: Department of Communication
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William Paisley-Butler
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Edwin Parker
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William Rivers
Paul C. Edwards Professor of Communication

Donald Roberts
Assistant Professor of Communication

Everett Rogers
Professor of Communication

RESEARCH STAFF AND STUDY DIRECTORS

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Matilda Butler-Paisley
James Cusenza
Heather Hudson
Anthony Meyer
Colin Mick
Susan Higley Russell*
Peter Spain

STUDENT RESEARCH ASSISTANTS

(Note: The following are those supported directly by the Institute during 1974-75. This list does not comprise all those who are enrolled in graduate studies in the Department of Communication.)

Rina Alcalay
Janet Bleil
Annie Benveniste
Janet Bauer
Jesse Caton
Edward Contreras
Elspeth Elliot
Dennis Foote
Manuel Figueroa
Jinnet Fowles
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Roxanne Hoare*
Elizabeth Jones
Libby Kirk-Fulton
Violet Lofgren
Paula Pendleton*
Patricia Penton
Michael Windes*

NEW APPOINTMENTS: DEPARTMENT OF COMMUNICATION

Charles D. Whitney
Acting Assistant Professor

Diana Stover Tillinghast
Acting Assistant Professor

*No longer at the Institute.

SCHOLARS IN RESIDENCE AND VISITORS TO THE INSTITUTE

During Winter Quarter of the 1974-75 academic year, Professor Everett M. Rogers of the University of Michigan (who has recently joined the Department) and Professor Hilde Himmelweit, Professor of Social Psychology at the London School of Economics and Political Science, taught courses and conducted seminars for graduate students.

Denis Goulet visited Stanford, participating in both formal and informal discussions with faculty and students. Goulet, who has lived and worked in Europe, Africa, and Latin America, is a Fellow of the Overseas Development Council in Washington, D.C.; he spoke on the ethics involved in the transfer of technology.

Kaarle Nordenstreng of the University of Tampere, Finland, spent several days here, lecturing on the international flow of information, which he has recently documented with Tapio Varis for UNESCO, and meeting informally with faculty and students.

Herbert Schiller (University of California, San Diego) and Gregory Bateson (University of California, Santa Cruz) spoke at Communication Colloquia, as did Nordenstreng and Goulet. Faculty and students had less formal luncheon sessions with Robert Tardos of the Mass Communication Research Institute in Budapest; Ted Haney, Research Director for the Far East Broadcasting Company; David Lingwood, Institute for Social Research, University of Michigan; and Regina Gibaja, Fondo de Capacitacion Popular, Colombia.

Ebrahim Rashidpour of the School of Education, University of Tehran, spent the year as a Post doctoral fellow in the Institute.

Juan Braun, a recent graduate of Michigan State University, spent June and July in residence at the Institute before returning to Argentina.

Other visitors included:

M. Maurice Benassayag, Ecole Pratique des Hautes Etudes, Paris

Professor Bumrongsook Siha-Umphai, Faculty of Communication Arts, Chulalongkorn University, Bangkok, Thailand

Sr. Eduardo Gonzalez, Pontificia Universidad Catolica de Chile, Santiago, Chile

Herbert Hiller, Editor, Caribbean Review and Department of International Relations, Florida International University

H. E. Jorge Correia Jesuino, Portuguese Minister of Mass Communications

Mr. Hilaire Kouame, Director of the Cabinet, Ministry of Education, Ivory Coast

Dr. Elizabeth Kunimoto, Communication Department, University of Hawaii

Mr. Mulomba Ngalula, Director of the Ministry of Information, Haute-Zaire, Zaire

Sr. Oscar Pandal, Anahuac University, Mexico

M. Francois Richaudeau, Centre d'Etude et de Promotion de la Lecture, Paris

Dr. M. Selim, University of Dacca, Bangladesh

Ms. Kija Tabari, Free University of Iran, Tehran, Iran

Professor Raymond Wong, Hong Kong Baptist College

Professor Timothy Yu, Chinese University of Hong Kong.

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Dr. Clifford Block of the Office for Research Analysis, Agency for International Development will be spending the coming year at the Institute while on sabbatical from AID.

Sources of Financial Support

Financial support of the research activities of the Institute is provided by both public and private agencies in the form of research grants and contracts. Periods of such support range from one to six years.

The following U. S. governmental and International agencies provided financial support during 1974-75.

Agency for International Development

National Heart and Lung Institute

National Library of Medicine

National Cancer Institute

National Institute of Education

National Science Foundation

UNESCO

National Iranian Radio Television

In addition, tuition and stipend support was provided for several Institute students under a training grant funded by the National Institutes for Health.

A private agency, The John and Mary Markle Foundation, provided financial support during 1974-75.